NUISANCE BARKING IN DOGS:
THE WELFARE IMPLICATIONS OF DIFFERENT TREATMENT MODALITIES
Sara L. Bennett, DVM, MS, DACVB

Outline

- What is Nuisance Barking?
- Motivations for Barking
- Types of Learning
- Tools to Address Barking
  - Do they Work? Are they Humane?
- Guidelines on Choosing an Appropriate and Humane Behavior Tool

What is Nuisance Barking?

- Definition of Nuisance Barking:
  - 'Barking that is of sufficient frequency to cause distress or interruption of the life of the dogs' owners or other residents within the neighbourhood.'
  - Could be normal behavior, but is considered socially unacceptable


What is Nuisance Barking?

- Excessive barking can lead to:
  - Relationship damage between neighbors
  - Damage to human animal bond
- Result in:
  - Monetary fines
  - Eviction
  - Pet relinquishment
  - Abandonment
  - Euthanasia
Poll Question # 1

Motivations for Barking

- Motivations
  - Communication
    - Inter- and intra-species
  - Non-specific clinical sign of a problem
    - Anxiety
  - Other behavior problem
- Can’t determine by just listening to the bark whether normal, sign of physical problem or psychological problem

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Motivations for Barking

<table>
<thead>
<tr>
<th>Normal</th>
<th>Abnormal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Play</td>
<td>Noise phobia</td>
</tr>
<tr>
<td>Attention seeking</td>
<td>Separation anxiety</td>
</tr>
<tr>
<td>Excitement</td>
<td>Territorial or fear aggression</td>
</tr>
<tr>
<td>Frustration</td>
<td>Compulsive disorder</td>
</tr>
<tr>
<td>Social facilitation</td>
<td>Cognitive dysfunction syndrome</td>
</tr>
<tr>
<td>Territorial behavior</td>
<td></td>
</tr>
<tr>
<td>Fear behavior</td>
<td></td>
</tr>
</tbody>
</table>


Flint, EL. The function, social implications and management of barking in dogs. CAB Rev 2012
Outline

- What is Nuisance Barking?
- Motivations for Barking
- **Types of Learning**
  - Tools to Address Barking
    - Do they Work? Are they Humane?
  - Guidelines on Choosing an Appropriate and Humane Behavior Tool

Types of Learning

- Variety of commercially available tools to decrease ‘nuisance’ barking
  - Important to understand how they affect dog to decrease barking
  - To do this, basic understanding of learning theory needed

Poll Question # 2

Types of Learning

- Classical Conditioning
  - Form associations between stimuli
    - Pavlov
- Operant Conditioning
  - Form associations between stimuli and responses
    - Skinner
    - Trial and Error
Classical Conditioning

- Definition:
  - Previously neutral stimulus attains meaning/becomes a predictor for something after it was paired with an inherently meaningful stimulus
  - Change the emotional response to situation/stimulus by pairing it with something pleasant or unpleasant
  - Involves involuntary visceral responses
    - Emotional responses
    - Blood pressure, heart rate, salivation
    - Excitement, fear responses

Classical Conditioning

- Examples
  - Can opener → food → salivation
  - Door bell → person at the door → bark
  - “Walk” → something fun → excitement
  - White coat → needles → fear
  - Clicker → food → happy
- Neutral stimulus can be paired with positive or aversive unconditioned stimulus, resulting in pleasant emotion or fear

Classical Conditioning

- ALWAYS OCCURRING! Whether the trainer intends it or not
- Dogs will associate a situation with the experience they had (training class, vet office)
- Sometimes, only takes one exposure to the paired stimuli
- Classical conditioning can interfere with operant conditioning

Operant Conditioning

- Form associations between stimuli and responses
- Learn that a particular behavior has a particular consequence
  - Associate responses with stimuli that are not naturally associated with each other
  - Create behaviors that are not naturally occurring
**Law of Effect**

- Behavior resulting in **pleasant consequence strengthened**/ Increases in frequency
- Behavior resulting in **no consequence** is **weakened**/ decreases in frequency
- Behavior resulting in **unpleasant consequence weakened**/ decreases in frequency
- Interpretation of consequence based on dog’s perception, not ours!

**Operant Conditioning: Important Definitions**

<table>
<thead>
<tr>
<th>Positive (add something)</th>
<th>Negative (subtract something)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reinforcement (increase behavior)</td>
<td>Food presented</td>
</tr>
<tr>
<td>Punishment (decrease behavior)</td>
<td>Shock applied</td>
</tr>
</tbody>
</table>

Positive Punishment ≠ Negative Reinforcement ≠ Negative Punishment

Need to know difference between these
Types of Learning

- Next section focus on positive punishment
  - This is technique most often intended to be utilized when applying fast acting tools to decrease barking

First, A Few Definitions

- **Electronic shock collar**
  - Delivers electric shock of varying intensity by hand held remote or by collar sensor that picks up barking
  - Commonly called E-touch, E-stim, or static collars
    - All work by shock, regardless of name
- **Citronella spray collar**
  - Delivers spray of citronella from collar directed at dog’s chin
  - Triggered by microphone sensor on collar to pick up barking
- **Scentless spray collar**
  - Similar to citronella spray collar
  - Except no scent included with puff of air

Positive Punishment

- Basic facts
  - Complex technique that is difficult to use and therefore often ineffective in practice
  - Poorly understood and overused
  - If effective, will work within 3-4 times
  - If taking longer than that, NOT WORKING
  - Probably being applied incorrectly

Positive Punishment

- Criteria for effective use of Positive Punishment
  - **Timing**: Must occur within ½ second of behavior
  - **Contingency**: Must occur every time behavior happens and never when it doesn’t
  - **Motivation**: The stronger the motivation to perform the behavior, the less effective punishment will be
  - **Intensity**: Must be strong enough to stop behavior but not traumatize pet- fine line
  - **Alternative**: Pet must be able to stop the punishment and be able to avoid it- must teach alternative behavior first
Poll Question # 3

Side Effects of Aversive Experiences

- Positive punishment doesn’t teach appropriate behavior, just tells dog what not to do
  - Can lead to increased frustration
  - Aversive techniques inhibit learning
    - Dog no longer offers behaviors

Side Effects of Aversive Experiences

- Aversive techniques can create or worsen anxiety related problems
  - In order to decrease a behavior must make dog afraid of the consequence and therefore less likely to repeat behavior
  - If use to modify behavior originally motivated out of fear or anxiety, technique does not address motivation for problem behavior
    - At best, behavior temporarily inhibited
  - Becomes inhumane when inhibiting behavior is at sake of increasing emotional state associated with poor welfare

- Reason why it is inappropriate to use aversive tools to try to modify fear or anxiety based behaviors

Side Effects of Aversive Experiences

- Unintended classically conditioned associations can be made
  - Create or increase fear of:
    - Situation (home alone)
    - Environment (crate, back yard)
    - Unintended stimulus (person walking by)
    - Owner applying the punishment
  - Use of aversive techniques requires handler to watch for and focus on bad behavior
    - Damages Human-Animal Bond
Side Effects of Aversive Experiences

- When fear and anxiety increase, many behavior problems worsen
  - Becomes dangerous for those around dog
    - More intense level of aggression displayed
  - Becomes more dangerous for dog
    - Increase panic from separation anxiety when shocked for barking
    - Become destructive in an attempt to escape
      - Property damage
      - Self-inflicted injury
      - Perform other stress related behaviors
      - Physical injury

Bennett, S.L. Animal Behavior Case of the Month JAVMA, 12/15/13 243:12, 1697-1699.

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### Tools to Address Barking

#### Compared electric shock and citronella collars for nuisance barking
- Barking decreased with both collars
- Decreased more with citronella collar
  - 25% with shock collar and 77.8% with citronella
- Owner satisfaction higher with citronella collar (88.9%) than shock collar (44.8%)
- Some dogs cried out but still barked through shock
- Some citronella collar sensitivities had to be adjusted to prevent spraying from ambient noises


### Tools to Address Barking

#### Compared citronella and scentless spray collars for barking in veterinary kennel
- Both groups decreased barking
  - Citronella collar performed a little better
    - 76.7% with citronella 58.6% with scentless
  - A few dogs had increased anxiety with collars
    - One of these dogs diagnosed with separation anxiety after study


### Tools to Address Barking

#### Compared dogs wearing citronella collar continuously versus intermittently
- Both groups showed decrease in barking
  - Maintenance of lower barking rates noted with intermittent use
  - All dogs showed increase in frequency of barking over time
    - Indicate habituation to the citronella
    - Citronella might act as more of an interrupter than positive punishment


### Tools to Address Barking

#### All of these studies used criteria to exclude dogs barking due to behavioral pathology
- All authors recognized inappropriate to use aversive methods to try to reduce anxiety motivated behavior
  - Positive punishment
Tools to Address Barking

- Major problem
  - Access by general public to aversive tools to control barking without investigating or understanding motivation for the barking
    - Without counseling on appropriate use or side effects
    - Owner often unknowingly inflict pain, fear and distress on beloved pet
  - Inappropriate and inhumane if problem barking due to fear and anxiety

Tools to Address Barking

- Worse when these tools recommended by public service municipalities as way for owner to avoid punishment due to pet’s barking
  - Monetary fines, eviction
  - Offered as “quick fix”
    - No attempt to help owner understand why dog is barking
    - No offer of other resources or more humane approach
      - Modify environment or triggers leading to the barking

Tools to Address Barking

- Immediate and permanent methods to eliminate unwanted barking
- AVMA statement on debarking surgery for dogs
- Not without its risks, failures and complications
  - Not enough vocal cord tissue removed
    - Barking could resume at normal volume
  - Scar tissue in airway
    - Result in respiratory compromise

https://www.avma.org/KB/Resources/LiteratureReviews/Documents/Background-Canine%20Devocalization-Final.pdf
Other Options Available

- Qualified professionals
  - Veterinary Behavior Specialists
    - DACVB [www.dacvb.org](http://www.dacvb.org)
  - Certified applied animal behavior consultants
  - Veterinarians with special interest in behavior
    - AVSAB [www.avsbonline.org](http://www.avsbonline.org)
  - Qualified Positive Reinforcement based trainers
    - Karen Pryor Academy
    - Pet Professional Guild of Force Free Trainers
    - Association of Pet Dog Trainers

Other Options Available

- New technologic tools to decrease barking in more humane manner
  - Apply other quadrants of operant conditioning
- Appeal to people that want to:
  - Change behavior rapidly
  - Enjoy using high tech gadgets
  - Wish to avoid hurting or frightening their dog

Other Options Available

- AutoTrainer
  - Bark activated collar cued to a remote treat dispensing device
  - Uses positive reinforcement to decrease barking
    - Actually rewarding silence
  - Collar identifies bark
  - Starts to reward dog with food as soon as increment of silence measured
  - Dog rewarded for longer and longer durations of quiet
  - Handler does not need to be present
    - Similar to other bark activated collars

Rewarding duration of quiet behavior
Other Options Available

- **Manners Minder**
  - Also known as Treat N' Train
  - Remote controlled treat dispensing machine
    - Can be used to teach alternate behaviors using positive reinforcement
  - Handler can be distance away or in other room and still activate machine via remote control
    - Also has automatic setting
  - Requires some handler-dog training sessions
  
  [https://drsofiayin.com/treatntrain](https://drsofiayin.com/treatntrain)

Other Options Available

- **Pet Tutor**
  - Remote controlled treat dispensing machine
    - Combines many of the same options as the Manners Minder and Auto Trainer
  - Can be hooked to computer for remote monitoring and control

Other Options Available

□ None of these tools are appropriate alone to treat barking due to an anxiety related behavior disorder
  ▪ Qualified professionals should be contacted

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Guidelines on Choosing an Appropriate and Humane Behavior Tool

□ “Identification of the underlying cause of excessive barking is essential so that targeted therapies can be used and requires a carefully taken behavioral history. Corrective techniques may include environmental manipulation, behavioral modification, medication or combinations of these therapies.”


Guidelines on Choosing an Appropriate and Humane Behavior Tool

□ Emphasis should be placed on creating list of qualified individuals willing to counsel owners and help them work through the following steps
  ▪ Rather than first reaching for aversive tools when presented with problem barking
Guidelines on Choosing an Appropriate and Humane Behavior Tool

- What is the problem behavior?
- What is the motivation for the problem behavior?
- Is this a normal behavior or a sign of a bigger behavior problem?

Guidelines on Choosing an Appropriate and Humane Behavior Tool

- What does a satisfactory result look like?
  - What do you want the animal to do instead?
- What conditions can be applied to the situation to get the satisfactory result?
  - Environmental management, behavioral counseling with a qualified professional
  - Positive or negative reinforcement, positive or negative punishment

Guidelines on Choosing an Appropriate and Humane Behavior Tool

- Then look at each option:
  - Is it humane?
  - Are there side effects?
- Choose the most humane method
- Apply plan
- Reassess progress

Conclusions

- Barking can be normal behavior or sign of serious behavior disorder
  - Regardless of cause, often considered socially unacceptable and owners pressured to make it stop
- Many tools available intended to decrease barking
  - Utilize variety of operant conditions to do this
  - Including positive punishment and positive reinforcement
- Positive punishment and negative reinforcement have potentially severe side effects on animal behavior
  - Are often inhumane and ineffective methods to change behavior, especially those motivated out of fear or anxiety
Conclusions

- Identifying motivation for barking must always be the first step in addressing problem barking
  - Regardless of whether due to normal motivation or behavior disorder
- Plan should be tailored to that pet’s motivation, environment and situation
- Welfare implications of any behavior plan should be considered prior to implementing plan
- No remote tool appropriate alone to address barking motivated out of anxiety or behavior disorder

For More Information

- www.dacvb.org
  - Advancing the specialty of veterinary behavior through education, research and clinical practice

For More Information

- www.avsabonline.org
  - Certified Applied Animal Behaviorist
For More Information

Trainer options:
https://www.karenpryoracademy.com/find-a-trainer

http://www.petprofessionalguild.com/

https://apdt.com/

Thank You for Your Time!

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